

Gardiner Windmill
Inc. Village of East Hampton
Suffolk County
New York

HAER No. NY-141

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
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Department of the Interior
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HISTORIC AMERICAN ENGINEERING RECORD

Gardiner Windmill

NY-141

Location: Inc. Village of East Hampton,
Suffolk County, New York

Date of Construction: 1804

Present Owner: Mr. Winthrop Gardiner
36 James Lane
East Hampton, New York

Significance: The Gardiner Windmill is one of eleven
surviving 18th and early-19th century
wind-powered grist mills on Long Island.
This is one of four extant windmills built
by Nathaniel Dominy V, a prominent East
Hampton craftsman. This is the only windmill
with underdrift gearing.

Historian: Robert Hefner

Transmitted by: Kevin Murphy, Historian HAER, April 1984

Cross-reference: This site is also cataloged with additional
photographs and measured drawings under HABS No. NY-4-2.

I. History of the Windmill

The Gardiner Windmill stands on its original site, on the east side of James Lane across from the South End Burying Ground in East Hampton. The mill was built in 1804 by Nathaniel Dominy V, the prominent East Hampton craftsman who also built the Gardiner's Island Windmill (1795), the Hook Windmill (1806) and the Shelter Island Windmill (1810). The original proprietors of the Gardiner Windmill included Miller Dayton, Jeremiah Osborne, Hedges Miller and Nathan Hedges. The mill replaced another wind-powered gristmill that had been built in 1769 either on the same site or very close by.

In February 1769 the East Hampton Town Trustees agreed "to permit John Chatfield Jr. & Nathaniel Baker Esqr., Capt. David Mulford, Thomas Mulford, Elisha Conkling, Jeremiah Osborne and their associates to set up a grist mill in the street on the hill near sd Chatfields house, or where the pound is." ¹ The East Hampton historian Henry P. Hedges noted in the introduction to that volume of the Trustees' Journal that an "old map" showed Chatfield's house to be at the southeast end of Main Street opposite the northeast corner of the burying ground. ² This site would be a little north of where the Gardiner Windmill now stands. Apparently the windmill was built in 1769, for in 1771 Nathaniel Dominy IV put a "head beam" in a windmill he identified as "Thomas Mulfords Mill". ³ In 1799 Dominy made coggs and rounds for the same mill which he noted was "now tended by Capt. N. Hedges." ⁴

In 1803 the owners of the 1769 mill decided to replace it with a new one. The principal owner of the windmill at this time was Miller Dayton, an important figure in local commercial activities. Jeremiah Osborne, who was among the original owners of the 1769 mill, was also in the company building the new mill in 1804. John Lyon Gardiner, the seventh proprietor of Gardiner's Island, contributed some of the capital to build the new windmill and became the owner of a seventh share.

John Lyon Gardiner's day books and account books provide the critical information that documents the construction of the Gardiner Windmill. The other important source is Nathaniel Dominy V's account books. All the significant entries from the above sources and others concerning the building and repairing of the Gardiner Windmill are found in Appendix I.⁵

John Lyon Gardiner wrote to Miller Dayton in December 1803, "Shall expect owner of new mill to call on me for my part" and noted that he had "wheel timbers seasond & good spindle for sale."⁶ Gardiner did provide for the mill "3 large sticks for Cog Wheel & 4 for facings."⁷ He noted that these timbers had been seasoning for 7 years.⁸

Nathaniel Dominy V was assisted in building the windmill by his two apprentices Seth Parsons and Charles Mulford⁹. They began cutting timber for the mill on Gardiner's Island in January 1804; John Lyon Gardiner charged the owners of the mill for one stick for a windshaft and 11 other sticks of white oak.¹⁰ Dominy, Parsons and Mulford began framing the mill on 11 June 1804 and had completed the job on 28 September 1804. Nathaniel Dominy charged the owners of the mill for 86 days of his own time, 86½ days for Charles Mulford and 83½ days for Seth Parsons.¹¹

John Lyon Gardiner noted in his account book the total cost of the new windmill as £ 528:6:11.¹² The amount of labor and the cost of materials to build and outfit this windmill made it the most valuable building on the mainland of East Hampton at the time. The 1800 assessment role for East Hampton shows only one house, the manor house on Gardiner's Island, valued at more than £ 528.¹³ Understandably the mill was owned by a syndicate which included some of the wealthiest men in the town. John Lyon Gardiner, who owned a 7th share of the mill, was by far the wealthiest man in East Hampton with property valued at \$52,000 in 1806. Jeremiah Osborne, another proprietor of the mill in 1804, was the third wealthiest man in town with property valued at \$6700. Miller Dayton was the sixth wealthiest with an assessment of \$4500 in 1806; among Miller Dayton's other commercial ventures were a wind-powered sawmill and a wharf at Northwest Harbor. The Hook Windmill (the one built in 1736) was also at this time owned by a syndicate; but the Pantigo Windmill was owned in 1804 by one man, Huntting Miller, who at the time had property assessed at \$7890 making him the second wealthiest man in East Hampton.¹⁴

Nathaniel Dominy V's account books record his repairs to the windmill from 1804 through 1829. His account refers to the mill as "Mill Nathan Hedges" until 1815 and then in 1819 the account is continued under "Enoch Fithian's Mill" indicating that Fithian had become the miller.¹⁵ That the mill was still owned by a syndicate through this time is evidenced by a bill of sale dated 5 June 1820 in which Abraham Smith transfers to Abraham Osborne Jr. one seventh share of the mill for \$100.¹⁶ Also, in 1827 and 1828 Nathaniel Dominy received payment on the mill's account from Miller Dayton, indicating that he had retained his share in the mill.¹⁷

Nathaniel Dominy's accounts with the owners of the Gardiner Mill from 1804 until 1829 provide an excellent record of the repairs that are required on an operating wind-powered gristmill. All the entries that specify the type of repair Dominy made are found in Appendix I. The most frequent repairs are adjustments to the gudgeons and bearings. Some of the more extensive or noteworthy repairs include: 13 December 1805 "to make scales"; April 1806 a new "upright shaft" installed; June 1808 a white oak timber 15 feet long and "22 to 24 inches squared" procured for a "Cog Wheel"; 1814 "To making a Trundlehead/ fasten the gudgeons and finish the wooden spindle"; 1815 "To makeing Capstan to turn Mill"; 2 June 1820 "To shaft to Capstan"; 4 August 1820 "To 3½ Days put in set of cogs/ To dressing out 52 cogs at home"; 16 February 1821 "To 2½ Days level Stones make bush"; 29 November 1821 "To 1 Day mending beam in Mill"; 19 March 1827 "To making large Cogg Wheel & hanging DO/ To 4 Days fasten gudgeons alter wallower/ To 4 for making boulting cloth".¹⁸

There is no definite documentation of the ownership or operation of the Gardiner Windmill from 1829 until 1860.¹⁹ According to the United States Census of Industry for 1860 the mill was at that time operated by Owen Derby. The figures given in the Census for the productivity of the Gardiner Mill, \$5500 of flour and feed from 5000 bushels of grain, are identical to those given for the other two East Hampton mills listed, the Hook Mill and the Wainscott Mill.²⁰ By 1876 the mill was operated by Owen Derby's son, Walter Derby, who remained the miller at least until 1880.²¹

By 1884 Jonathan Thompson Gardiner, who became the 13th proprietor of Gardiner's Island and who owned the Gardiner land adjoining the windmill lot, also owned the windmill. An item in the East Hampton Star of that year reads, "The South-end mill has been put in complete order by J.T. Gardiner, and is now running under John Lawrence's skillful direction."²² In 1889 J.T. Gardiner credited John Lawrence with "Making Mill Sails."²³ The East Hampton Star in March 1898 noted "The South end wind mill is becoming blockaded with grain to be ground, so W.A. Baker, the man in charge, informs us. He says the pressing need of the hour is more wind."²⁴ Further evidence that this windmill remained a viable commercial enterprise at the turn of the century is this entry in the East Hampton Star of 28 December 1900, "J.T. Gardiner has had the South End windmill repaired and put in good order for business."²⁵

It is not known how many years after 1900 the mill operated regularly. A letter published in the New York Sun in 1933 states that the mill ran in 1932.²⁶ and a story in the New York Herald Tribune in 1930 notes the mill "is still in condition for operating", but the accompanying photograph shows no sails furled on the sail frames.²⁷ The windmill is presently owned by Winthrop Gardiner, who inherited it from Jonathan Thompson Gardiner.

II. Structure and Machinery

INTERIOR FINISH

The degree of finish given the structural members of the Gardiner Windmill is unequalled in any surviving Long Island windmill. The cant posts are exactly squared on the exposed sides, planed smooth, and the corners beaded. The studs and wall braces are all of uniform dimensions and also exactly squared and planed smooth.

UNDER-DRIVEN STONES

The Gardiner Windmill is the only surviving Long Island windmill in which the millstones are driven from beneath. The main vertical shaft extends to the first floor where it bears on a bridge beam supported by a ~~hurst~~ frame. The great spur wheel is on the shaft just above that bearing and drives spur pinions mounted on the stone spindles. The spur pinions of the Gardiner Mill are also unique, as the stone nuts of all the other mills are lantern pinions.

Under-driven millstones are commonly found in post mills. But in smock mills driving the millstones from above is the most direct and the most common method. But under-driven smock mills are found in England and the Middletown, Rhode Island Windmill (ca. 1812) has an underdrift system much like the one in the Gardiner Windmill.

Because of the 1804 construction date of the Gardiner Windmill, it is certain that the underdrift system is not a carry-over from the practice of building post mills. Nathaniel Dominy V had built at least one windmill before this one which apparently had overdriven millstones; this is the Gardiner's Island Windmill built in 1795 but extensively rebuilt in 1815. Dominy's installation of the under-drive system in the Gardiner Windmill was probably an experiment in his millwrighting practice.

BOLTERS

In 1967 the Gardiner Windmill was made into a club house and most of the machinery was dismantled; some was removed from the mill but most was stored in the third floor. From the drawings of the mill done by the Historic American Building Survey in 1934 and from photographs taken by Rex Wailes in 1932, we know of some of the machinery removed from the mill at that time.

The Gardiner Windmill had two bolters, as the Hook Mill has now: one for corn meal and one for wheat flour. The mill had a double bolter for the wheat flour. The flour that had not fallen through the fine silk of the upper reel was deposited in a lower reel with gradations of coarser mesh silk. The Gardiner Mill is the only one known to have such a double bolter. The corn bolter was placed outside the mill in 1967 and is now severely decayed.

NOTES

(1) H.D. Sleight, ed. Journal of the Trustees of the Freeholders and Commonalty of East Hampton Town (Riverhead, NY: Harry Lee Publishing Co., 1927) Vol. I, p. 143.

(2) Ibid., p. 24.

(3) Nathaniel Dominy IV and Nathaniel Dominy V Account Book, 1762-1844, manuscript photocopy, East Hampton Free Library, p. 78.

(4) One item which helps to document the history of the Gardiner Windmill is this passage from the account book of Jonathan Thompson Gardiner, 13th proprietor of Gardiner's Island, dated 14 May 1912, "I have today found in the account book of N. Dominy beginning in the year 1764 that the wind mill now owned by myself standing on the Lion Gardiner Home lot at the South end of Main Street in E H was called Tom Mulford's Mill in 1771 and was tended by Capt. Nathan Hedges in 1778" (Jonathan Thompson Gardiner Account Book, private collection). This discovery probably led to the "1771" weathervane being put on the mill, which has led to the commonly held belief that the mill was built in 1771.

(5) Multiple entries of one event are reproduced in Appendix I because they document that the windmill referred to variously as mill of "Capt. N. Hedges", mill of "Nathan Hedges", "New Mill by Capt Hedges", "New Mill by M Dayton" and "Mill South end" is the same windmill. John Lyon Gardiner's references to the mill provide further evidence that the windmill being constructed for Miller Dayton, Jeremiah

Osborne, Nathan Hedges and company is the Gardiner Windmill. In one entry Gardiner refers to the 1769 mill as the "old Mill in the lane" and in two entries he refers to the new mill as "Mill South end". Assuming that the new mill was built on or near the site of the old one, it stood at the south end of town "on the lane". Only two mills are known to have existed at the south end of East Hampton in 1804, the Gardiner Mill and the Pantigo Mill. The Gardiner Mill is logically the mill "on the lane" as Main Street, not James Lane, would have been the main route of travel. Of course, we know that the Pantigo Mill was owned by Huntting Miller in 1804.

(6) John Lyon Gardiner Day Book, 1802-1807,
manuscript, East Hampton Free Library.

(7) John Lyon Gardiner Account Book, 1801-1807,
manuscript, East Hampton Free Library, p. 151.

(8) Well-seasoned timber was very important for the large gears in the mill; especially for the cants of the brake wheel which in the Gardiner Mill is 8 feet in diameter.

(9) Charles Mulford (1786-1856) had moved to Rensselaerville, N.Y. by 1822. In a letter to write to Nathaniel Dominy V that year, Mulford stated "I do some expect to build a wind mill this season at Albany for grinding corn & rye for a distillery." (Letter, Charles L. Mulford to Nathaniel Dominy V. 15 April 1822, uncataloged manuscript, East Hampton Free Library).

(10) John Lyon Gardiner Day Book, 1802-1807,
manuscript, East Hampton Free Library.

- (11) Nathaniel Dominy V Account Book, 1798-1847, manuscript, Henry Francis du Pont Winterthur Museum.
- (12) John Lyon Gardiner Account Book, 1801-1807, manuscript, East Hampton Free Library, p. 151.
- (13) "List of Tax upon Dwelling Houses in the 1st Collection District of New York", manuscript, Suffolk County Historical Society.
- (14) Assessment role of the town of East Hampton, 1806, manuscript, East Hampton Free Library.
- (15) Nathaniel Dominy V Account Book, 1798-1847, manuscript, Henry Francis du Pont Winterthur Museum, p. 57.
- (16) Bill of sale, Abraham Smith to Abraham Osborne, 5 June 1820, uncataloged manuscript, East Hampton Free Library.
- (17) Felix Dominy, Nathaniel Dominy V and Nathaniel Dominy VII Account Book, 1809-1862, manuscript, East Hampton Free Library, p. 78.
- (18) See Appendix I for references.
- (19) An article in the East Hampton Star of 28 December 1900 states that the Gardiner Windmill "was purchased by Mr. Gardiner's father in 1840 and has been owned by the Gardiners ever since." The Mr. Gardiner noted above is Jonathan Thompson Gardiner, his father was Samuel Buell Gardiner. Thomas M. Edwards in his "Reminiscences of Old East Hampton by the Sea" (1929, manuscript, East Hampton Free Library) wrote that the mill was "at one time owned by S.B. Gardiner and at my first recollection owned by Owen Derby."

(20) United States Census Office, 8th Census, Census of Industry, Suffolk County, 1860.

(21) Photograph, Gardiner Windmill and "Walter Derby, Miller" dated 1876. United States Census Office, 10th Census, Suffolk County, 1880.

(22) Sag Harbor Express Vol. 26, No. 22, 11 December 1884.

(23) Jonathan Thompson Gardiner Account Book, private collection.

(24) East Hampton Star, Vol. 13, No. 14, 11 March 1898.

(25) East Hampton Star, Vol. 16, No. 3, 28 December 1900.

(26) "Long Island Windmills," Letter to the editor from Meade C. Dobson, Managing Director, Long Island Chamber of Commerce, New York Sun, 13 September 1933, p. 26.

(27) "Windmills of Long Island," New York Herald Tribune, 10 August 1930, p. 12.

Accounts of the Building and Repair of the Gardiner Windmill

23 December 1803 (John Lyon Gardiner, Day Book, 1802-1807)
Wrote M Dayton - Shall expect owner of
new Mill to call on me for my part
1/8 - have wheel timbers seasoned &
a good spindle for sale.

7 January 1804 (John Lyon Gardiner, Account Book, 1801-1807, p.15)
Dr Proprietors of New Mill by Capt Hedges
to 1 stick for Shaft 19 ftt long 1/12/0
to 9 equal to 11 others 1/12/0
to 38 Meals by Carpenters 1/7/5
to one ax broken by Carpenters 0/2/6
to Carting to Shore
I carried carpenters over 0/04/0

7 January 1804 (John Lyon Gardiner, Day Book, 1802-1807)
Proprietors of New Mill in E H by M Dayton
(The entry is the same as that given above
for 7 January 1804 under New Mill by Capt Hedges)

16 April 1804 (John Lyon Gardiner, Day Book, 1802-1807)
Isaac Plato rec'd the Mill Shaft &
7 other single & 2 Double = 11 sticks

26 April 1804 (John Lyon Gardiner, Account Book, 1801-1807, p.15)
Dr Proprietors of New Mill by Capt Hedges
To 3 large sticks for Cog Wheel &
4 (for) facings - seasond 7 years 6/00/0

10 May 1804 (John Lyon Gardiner, Day Book, 1802-1807)
Dr Nathan Hedges for (buying?) 1/8 of
old Mill 42 £ pd you cash 5/05/0

13 May 1804 (John Lyon Gardiner, Account Book, 1801-1807, p.15)
Dr Proprietors of New Mill by Capt Hedges
to cash I pd for 1/8 old Mill
to build new one 5/05/0

13 May 1804 (John Lyon Gardiner, Account Book, 1801-1807, p.16)
Captain N Hedges D
to cash paid you 5/05/0
Captain N Hedges contra
By one eighth of old Mill in
the lane 5/05/0

11 June 1804	(Nathaniel Dominy V, Account Book, 1798-1812)	
to	Miller Dayton Jeremiah Osborne & Co Dr	
28 September 1804	June 11 begun Mill	
	to work on Mill 86 Days at 6/	25/16/0
	to Seth Parsons 83½ D ^o at 4/	16/14/0
	to Charles Mulford 86½ D ^o at 4/	17/6/0
	to Boarding	12/00/0
	finishd the Mill Sept 28	
3 September 1804	(John Lyon Gardiner, Day Book, 1802-1807)	
	Dr Owners of New Mill	
	148 ftt of good Boards as per AM	
22 December 1804	(Nathaniel Dominy V, Account Book, 1798-1812)	
	Miller Dayton Jeremiah Osborne & Co Dr	
	to Repair Mill 10½ Days Charles 6¼	
	Seth 4	4/09/3
1 January 1805	(John Lyon Gardiner, Account Book, 1801-1807, p.15)	
	Proprietors of New Mill by Capt Hedges	
	Contra	
	By one 7th of the Mill to cost	
	being for (?) 528:6:11 including	
	repairs of broken stone	75/9/7
	By Deduction of the charge on	
	opposite (?) for old Mill as it is	
	not included in 528:6:11	5/05/0
	By Deduction for high charge	
	for timbers being appraised	
	by ND as others sold to Mill	4/11/9
31 January 1805	(Nathaniel Dominy, Account Book, 1798-1812)	
	Nathan Hedges Dr	
	to fix Bush on Mill	0/02/6
8 October 1805	(Nathaniel Dominy V, Account Book, 1798-1812)	
	Nathan Hedges Dr	
	to put in Point	0/16/0
13 December	(Nathaniel Dominy V, Account Book, 1798-1812)	
	Mill Na than Hedges	
	to make scales	0/08/0
1 January 1806	(John Lyon Gardiner, Day Book, 1802-1807)	
	Rec'd of Cap N Hedges for my seventh	
	part of tole of mill 1 year	5/5/6

29 April 1806	(John Lyon Gardiner, Day Book, 1802-1807) Dr Owners of Mill South end one stick timber upright shaft - 4½ - 1/16/0 half expence of boarding ND & two others from Sunday Evening to tuesday PM 0/09/0 ½ expense of boarding 2 boatmen Meals 4 tuesday morn 2/05/0
29 April 1806	(Nathaniel Dominy V, Account Book, 1798-1812) Miller Dayton to 1 Day & 2 Boys getting shaft 0/18/0
10 May-1806	(Nathaniel Dominy V, Account Book, 1798-1812) Mill Nathan Hedges to 4½ Days and 2 Boys put in shaft 3/10/0
30 January 1807	(John Lyon Gardiner, Account Book, 1801-1807, p.15) Proprietors of New Mill by Capt Hedges Contra Mem ^d of Real cost to Me of the 7th of the Mill the above charge 85/06/4 My Proportion of tole of Old & new Mill to 1 Jan 1805 being Deducted by (?) from amount of Bill 5/00/0 90/06/0
11 June 1808	(John Lyon Gardiner, Day Book, 1807-1810) Dr Owners of N Hedges Mill 1 stick white oak timber for wheel
11 June 1808	(Nathaniel Dominy V, Account Book, 1798-1812) Mill Nathan Hedges To work on G. Island geting Timber for Cog Wheel 0/12/0
13 June 1808	(John Lyon Gardiner, Account Book, 1806-1806) Mill South end E Hampton To 1 Stock timber 15 ftt long 22 to 24 inches squared 4 ½ ton 2/00/0 To 1½ Days work DM ½ Capn Fithian 0/16/0 to board N Domine 1½ Day 0/04/0

(The following entries are all from
Nathaniel Dominy V, Account Book, 1798-1812
Mill Nathan Hedges D^r

25 October 1808	To fasten gudgeon	0/03/0
4 January 1809	To fasten gugeon Box	0/06/0
13 January 1809	To mend Boulting Mill	0/02/6
1 January 1810	To put Tail in Mill 1 1/3 Day	0/10/0
16 February 1812	To Stick for Mill point & hewing	0/03/0
1 April 1812	To 2 Days make spindle & timber	0/16/0
18 August 1812	To 2 Days & 2 Boys put in Point & Stock in Mill	1/12/0
September 1812	To put iron Axeltree to Mill	0/02/0
7 February 1813	To turn Rounds & put in trundlehead	0/12/0
	To 1 Day & 1/3 fasten Gudgeons &c	0/10/0
1814	To making a Trundlehead fasten the gudgeons and finish the wooden spindle	1/04/0
1815	To makeing Capstan to turn Mill	0/12/0
16 September 1819	(Sarah Gardiner , Day Book, 1816 -) D ^r Fithians Grist Mill to bringing up Mill Shaft A bad Job	2/00/0
2 June 1820	(Nathaniel Dominy V, Account Book, 1798-1812) Enoch Fithian's Mill D ^r To shaft to Capstan	0/03/6
(The following entries are all from Felix Dominy and Nathaniel Dominy V and Nathaniel Dominy VII, Account Book, 1809-1862, p.7 Mill of Enoch Fithian D ^r		
4 August 1820	To 3½ Days put in set of cogs &c	1/04/6
	To dressing out 52 Cogs at home	0/16/0
16 February 1821	To 2½ Days level Stones make bush	0/12/6
29 November 1821	To 1 Day mending beam in Mill &c	0/07/0
12 December 1823	To fasten & Straighten gudgen	0/02/0
14 March 1825	To 2½ Days fixing new spindle let in bail &c	0/17/6
	To find stuff & make a pattern for spindle	0/05/0
19 March 1827	To ma king large Cogg Wheel & hanging D ^o	8/00/0
	To 4 Days fasten gudgeons alter wallower &c	1/08/0
	To 4 for making boulting cloth	0/04/0
19 September 1829	To 3/4 Day make block and fix iron under shaft	0/06/0
November 1829	To fix sheet Iron on block	0/01/6